CLAIMS

What is claimed:

1. A method to laminate lithium onto an electrode comprising the steps of:

(a) utilizing an electrode structure including a substrate coated with active material;

(b) utilizing a lithium coated plastic sheet;

(c) pressing the said electrode structure and said lithium coated sheet together using a pair of pressing structures;

(d) moving said electrode structure and lithium coated sheet through the pressing structures; and

(e) applying pressure and heat in vacuum to said electrode structure and said lithium coated sheet while moving them through said pressing structures.

2. The method of claim 1 further comprising the step of utilizing the said laminated electrode in lithium or lithium ion batteries.

3. The method of claim 1 further comprising the step of utilizing a pair of rollers as the pressing structures.

4. The method of claim 1 further comprising the step of utilizing a pair of plates as the pressing structures.

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5. The method of claim 1 further comprising the step of applying heat at a temperature within the range 25°C to 250°C.

6. The method of claim 1 further comprising the step of applying pressure on the range of 50 kg/cm^2 to 600 kg/cm^2 utilizing said pressure structures.

7. A method for increasing the storage capacity of a lithium ion battery including the steps of:

(a) providing an electrode structure comprised of a metal substrate coated with active material; and

(b) depositing lithium onto or into said active material to reduce cavities therein; wherein said depositing step includes:

(b1) providing a sheet carrier bearing a layer of lithium metal; and

(b2) pressing said layer of lithium metal against said active material to transfer lithium onto or into said active material.

8. The method of claim 7 wherein said depositing step further includes:

(a) applying heat and/or pressure in vacuum to said carrier and/or said electrode structure to facilitate transfer of said lithium.

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